192 RALPH AVENUE (DAR SITE ID #23)

Address:	192 Ralph Avenue, Brooklyn, New York 11233 (188 and 190 Ralph Avenue)
Tax Lot Parcel(s):	Brooklyn Block 1678, Lot 53
Latitude:	40.683193
Longitude:	-73.922955
Regulatory Programs/ Numbers/Codes:	NYSDEC IHWDS 224042; USEPA ID No. NYD982270738; NYSDEC VCP Code V00669-2
Analytical Data Status:	☐ Electronic Data Available ☒ Hardcopies only ☐ No Data Available

1 SUMMARY OF CONSTITUENTS OF POTENTIAL CONCERN (COPCs) TRANSPORT PATHWAYS TO THE CREEK

The current understanding of the transport mechanisms of COPCs from the upland portions of the 192 Ralph Avenue site (site) to Newtown Creek is summarized in this section and Table 1 and supported in following sections.

Overland Transport

The site is approximately 1.8 miles from English Kills. This is not a complete current or historical pathway.

Bank Erosion

The site is not adjacent to Newtown Creek or associated waterways. This is not a complete historical or current pathway.

Groundwater

Tetrachloroethylene (PCE) is present beneath the site and has migrated off site. The site is located approximately 1.8 miles from English Kills, a tributary to Newtown Creek. There is insufficient evidence to make a historical or current pathway determination.

Overwater Activities

The site is not adjacent to Newtown Creek or associated waterways. Information regarding overwater activities was not identified in documents available for review. This is not a complete historical or current pathway.

Stormwater/Wastewater Systems

Information regarding on-site stormwater and wastewater infrastructure and management was not identified in documents available for review. The site is within the Newtown Creek Water Pollution Control Plant (WPCP) sewershed. Stormwater and wastewater discharges from the site flow into a combined municipal sewer system. When the combined flows exceed the system's capacity, untreated combined sewer overflows (CSOs) are discharged to English Kills through Outfall NC-015 (NYCDEP 2007). There is insufficient information to make a current or historical pathway determination for discharges to the sewer/CSO or direct discharge of stormwater or wastewater.

Air Releases

Indoor air quality (IAQ) testing determined the presence of volatile organic compounds (VOCs) inclusive of PCE with the highest concentrations collected in the basement of the former dry cleaner. A Soil Vapor Extraction (SVE) system was installed in January 2008, and since the installation, the concentrations of VOCs and PCE have decreased. No further information regarding air emissions from the site was identified in documents available for review. There is insufficient evidence to make a historical or current pathway determination.

2 PROJECT STATUS

Based on the presence of PCE in soil, groundwater, and soil vapor, the site is listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites (IHWDS) as a "Class 2" site (i.e., the disposal of hazardous waste has been confirmed and the presence of such hazardous waste or its components or breakdown products represent a significant threat to the environment or to health). The site entered into the Voluntary Cleanup Program (VCP) on February 20, 2004. A summary of investigation and remedial activities at the site is provided in the following table:

Activity		Date(s)/Comments
Phase 1 Environmental Site Assessment	☐	
Site Characterization	☒	2002/Subsurface Investigation
Remedial Investigation	☒	July 2006/Remedial Investigation Work Plan
Remedy Selection	☒	June 2007/Interim Remedial Measure and Supplemental Investigation Work Plan
Remedial Design/Remedial Action Implementation	☒	January 2008/Soil Vapor Extraction System
Use Restrictions (Environmental Easements or Institutional Controls)	☒	July 2010/Environmental easement process underway
Construction Completion	☐	
Site Closeout/No Further Action Determination	☐	

- NYSDEC Site Code(s): IHWDS No. 224042, VCP No. V00669-2
- NYSDEC Site Manager: Michael Komoroske

3 SITE OWNERSHIP HISTORY

Respondent Member: ☐ Yes ☒ No

Owner	Years	Occupant	Type of Operation
Thomas R.Fortune	Unknown – 1989	Thomas R. Fortune and Family (unknown-1980)	Primary Residence
		Fortune Dry Cleaners (1946-1998)	Dry Cleaners
Marjorie Fortune	1989 – 2001	Unknown (1998-2002)	Unknown
Roger Fortune	2001 – 2002		
Brooklyn Properties 5, LLC	2002 – present	Rose Tree Management Corporation. (2002-unknown)	Business and Administrative Management Office
		Vacant	Future commercial rental

Note:
Additional discussion and sources provided in Section 6.

4 PROPERTY DESCRIPTION

The site occupies approximately 0.037 acre located approximately 1.8 miles from English Kills, a tributary to Newtown Creek. The site is at approximately 46 feet above mean sea level and site topography slopes gently down from west to east as shown on Figure 1. The entire site is covered by a multi-story building.

Surrounding properties to the north, south, and west are in commercial and residential uses. The site and surrounding properties are zoned R6-B. R6-B districts are moderate- and higher-density contextual residential districts designated for areas found close to central and regional business districts, close to mass transit, and designed to maintain the scale and form of New York City's traditional moderate and higher-density neighborhoods (NYCDCP 2011a, 2011b).

5 CURRENT SITE USE

The site is currently unoccupied. The future use of the building is intended to be a commercial rental (details regarding the business type are currently unavailable; BEI 2010).

6 SITE USE HISTORY

Thomas R. Fortune owned block 1678, Lot 53 until his death in 1986 (Marjorie Fortune et al 1989). Lot 53 included addresses 188, 190, and 192 Ralph Avenue. A 1951 map did not show anything at the site (Sanborn 1951). Fortune worked as a New York State legislator and campaign manager for Shirley Chisolm. He also incorporated a business in 1951, Gateway Stores, Inc., of which nothing is known (NYT 1987; NYSDOS 2011). Thomas Fortune listed 190 Ralph Avenue as his primary residence until 1980 when he purchased a new residence (Aaron Wood 1980).

According to the New York State Department of Environmental Conservation (NYSDEC), a dry cleaner operated at 192 Ralph Avenue from approximately 1946 through 1998. Under the VCP, a vapor barrier was installed in the basement in 2008. The site is listed in the Registry of IHWDS (NYSDEC 2011).

7 CURRENT AND HISTORICAL AREAS OF CONCERN AND COPCs

The current understanding of the historical and current potential upland and overwater areas of concern at the site is summarized in Table 1. The following sections provide brief discussion of the potential sources and constituents of potential concern at the site.

Potential contaminant areas of concern at the site include areas in which dry cleaning operations occurred and areas of residual contamination following remedial activities (e.g., SVE system in-place and on-site and off-site groundwater). COPCs associated with these areas include chlorinated volatile organic compounds (CVOCs) and non-chlorinated VOCs.

7.1 Uplands

Potential contaminant sources at the site include former dry cleaning operations, chemicals, and machinery including chlorinated and non-chlorinated VOCs, such as PCE and trichloroethene.

7.2 Overwater Activities

The site is not adjacent to Newtown Creek or associated waterways. Information regarding overwater activities was not identified in documents available for review.

7.3 Spills

Information regarding on-site spills was not identified in documents available for review.

8 PHYSICAL SITE SETTING

8.1 Geology

In Kings County, the surface of the bedrock slopes about 80 feet per mile to the southeast and is buried beneath Cretaceous and Pleistocene deposits aggregating as much as 1,150 feet in thickness. Depth to bedrock in the study area is between 300 and 600 feet below ground surface (bgs; BEI 2009, 2010). The surface debris consists of brown, unstratified clay, sand, and boulders. In some parts of the city, as in northern Richmond, Kings, and Queens

Counties, it locally overlies outwash sand and gravel, which are excellent water-bearing material (BEI 2009). Native soils were observed to be highly permeable sands (BEI 2010).

8.2 Hydrogeology

The regional groundwater resource in Kings County is the Brooklyn and Queens Aquifer System (System). This System is represented by relatively impermeable tills of the ground moraine and by silts and clays of glacial Lake Flushing. Four aquifers make up this system: the Upper Glacial, the Jameco, the Magothy, and the Lloyd. The Upper Glacial is a water table aquifer. Groundwater in Kings County is classified as Class GA, which is a source of a potable water supply (BEI 2008).

Depth to groundwater at temporary monitoring wells installed as part of the 2006 investigation confirmed depth to groundwater as approximately 37 feet bgs (BEI 2009). In June 2007, five piezometer wells were installed to a depth of approximately 44 feet bgs (roughly 7 feet below the surface of the water table). The piezometers aided in determining localized groundwater flow direction and velocity, which is projected to have a predominant south-southeasterly flow (BEI 2010). A groundwater elevation survey conducted in 2008 is included as Attachment 1.

9 NATURE AND EXTENT (CURRENT UNDERSTANDING OF ENVIRONMENTAL CONDITIONS)

9.1 Soil

Soil Investigations	☒ Yes ☐ No
Bank Samples	☐ Yes ☐ No ☒ Not Applicable
Soil-Vapor Investigations	☒ Yes ☐ No

9.1.1 Soil Investigations

An initial investigation was conducted in May 2002 in which four borings (B-1 through B-4) and soil samples were obtained two to four feet below basement floor (BEI 2010). Samples were tested for Halogenated and Aromatic Volatiles per U.S. Environmental Protection Agency (USEPA) Method 8010. PCE was detected in samples collected from each boring

(BEI 2010). Additional borings (B-2A through B-4A) were completed in July 2002. PCE concentrations are summarized in the following table:

Boring Location and Depth (feet)	Units	PCE Concentration
2 – 4	ppb	903
B-2 at 2 – 4 feet	ppb	313,000
B-3 at 2 – 4 feet	ppb	66,900
B-4 at 2 – 4 feet	ppb	344,000
B-2A at 24 – 26 feet	ppb	56.0
B-2A at 30 – 32 feet	ppb	200
B-3A at 16 – 18 feet	ppb	712
B-3A at 24 – 26 feet	ppb	<5.0
B-3A at 30 – 32 feet	ppb	<5.01
B-4A at 8 – 10 feet	ppb	145
B-4A at 14 – 16 feet	ppb	50.5
B-4A at 20 – 22 feet	ppb	6.74

Notes:
PCE – tetrachloroethylene
ppb – parts per billion

In 2002 and 2006, additional soil sampling was conducted during the Remedial Investigation (RI) where seven borings (IWP-1 through IWP-7) were advanced at the site. PCE was again detected during these investigations; sample locations are depicted in Attachment 2 (BEI 2010).

In August 2008, after the SVE system had been in place for a year, soil samples were collected from four locations (S-1A through S-4A) outside the property boundary to delineate soil contamination. Traces of PCE were present with the highest concentration detected at 12 parts per billion (ppb; BEI 2010). The locations of the additional soil samples are shown in Attachment 3.

9.1.2 Soil Vapor Investigations

The concentrations of VOCs in soil gas were also investigated in 2006 to evaluate the potential for migration of vapors into off-site locations. The highest concentrations were

reported in soil gas samples collected within the basement of the former dry cleaner. Toluene and methylene chloride were also detected at several sampling locations (BEI 2010).

The Interim Remedial Measure (IRM) and Supplemental Remedial Investigation Work Plan (SRIWP) were developed during June of 2007 to address PCE impacted soil and the resulting soil vapor intrusion at the site (BEI 2010). An SVE system was the selected remedy for the remediation of VOCs in vadose zone soils within the basement structures and to control the migration of soil vapor on and off site. A map depicting the locations of the SVE wells is included in Attachment 3.

9.1.3 Soil Summary

In 2002, 2006, and 2008, elevated concentrations of VOCs and CVOCs were detected at the site. An SVE system was installed on site; however, traces of CVOCs still exist.

9.2 Groundwater

Groundwater Investigations	☒ Yes ☐ No
NAPL Presence (Historical and Current)	☐ Yes ☒ No
Dissolved COPC Plumes	☒ Yes ☐ No
Visual Seep Sample Data	☐ Yes ☐ No ☒ Not Applicable

9.2.1 Groundwater Investigations

In 2006, during the RI, groundwater samples were collected from seven temporary monitoring wells at the site. At each location a sample was collected at approximately 40 feet bgs and a second sample was collected at approximately 50 feet bgs (BEI 2010). See Attachment 2 for 2006 groundwater sample locations.

Additional groundwater monitoring occurred in June 2007 at piezometer wells (PZ-1 through PZ-5) and off-site temporary monitoring wells (GW-1A through GW-4A; BEI 2010). Sample locations are shown in Attachments 1 and 3. Detected PCE concentrations are included in the following table:

Well/Boring Location	Units	PCE Concentration
PZ-1	µg/L	4,900
PZ-2	µg/L	820
PZ-3	µg/L	170
PZ-4	µg/L	830
PZ-5	µg/L	450
GW-1A at 39 feet	µg/L	590
GW-1A at 49 feet	µg/L	260
GW-1A at 59 feet	µg/L	160
GW-1A at 69 feet	µg/L	84
GW-2A at 39 feet	µg/L	7,100
GW-2A at 49 feet	µg/L	710
GW-2A at 59 feet	µg/L	190
GW-2A at 69 feet	µg/L	38
GW-3A at 39 feet	µg/L	100
GW-3A at 49 feet	µg/L	190
GW-3A at 59 feet	µg/L	11
GW-3A at 69 feet	µg/L	5
GW-4A at 39 feet	µg/L	88
GW-4A at 49 feet	µg/L	73

Notes:
µg/L – microgram per liter
PCE – tetrachloroethylene

9.2.2 Groundwater Summary

Groundwater investigations were conducted at the site in 2006 and 2007. In 2007, elevated levels of PCE were detected in each sample location.

9.3 Surface Water

Surface Water Investigation	☐ Yes ☒ No
SPDES Permit (Current or Past)	☐ Yes ☒ No
Industrial Wastewater Discharge Permit (Current or Past)	☐ Yes ☒ No
Stormwater Data	☐ Yes ☒ No
Catch Basin Solids Data	☐ Yes ☒ No
Wastewater Data	☐ Yes ☒ No

9.3.1 Stormwater and Wastewater Systems

Information regarding on-site stormwater and wastewater infrastructure and management was not identified in documents available for review. This site is within the Newtown Creek WPCP sewershed. Stormwater and wastewater discharges from the site flow into a combined municipal sewer system. When the combined flows exceed the system's capacity, untreated CSOs are discharged to English Kills at Outfall NC-015 (NYCDEP 2007).

9.4 Sediment

Creek Sediment Data ☐ Yes ☒ No ☐ Not Applicable

Information regarding sediment investigations was not identified in documents available for review.

9.5 Air

Air Permit ☐ Yes ☒ No

Air Data ☒ Yes ☐ No

9.5.1 Air Data

In 2006, IAQ testing was conducted at seven locations (IA-1 through IA-7). Numerous VOCs including PCE were detected (BEI 2010). PCE was present at the management office to the north (IA-3) at 500 micrograms per cubic meter (µg/m^3); within the former dry cleaners basement (IA-5) at 4,000 µg/m^3; and the basement of the residential building to the south (IA-6) at 190 µg/m^3.

Since July 2010 when the SVE system became operational, monthly monitoring of the system has occurred at the site. Air samples from the SVE system are taken at three locations: 1) influent to Carbon Drum 1 (represents the contaminated air that is extracted from the vapor extraction wells before it enters into the carbon drum filtration units); 2) effluent from Carbon Drum 1; and 3) effluent from Carbon Drum 2 (last stage of filtration). A flow diagram of the SVE system is shown in Attachment 6. A sample of the final effluent air is collected and analyzed for dry cleaning-related chemicals. Residual air is released through

an exhaust stack made of 2-inch schedule 40 polyvinyl chloride (PVC), at an elevation of 10 feet above the neighboring roof line. Exhaust generated from the SVE system is intended to comply with NYSDEC Guidelines for the Control of Toxic Ambient Air Contaminants (BEI 2010). The results are summarized in trend graphs (see Attachments 7, 8, and 9).

In August 2008, after the SVE system had been in place for a year, additional IAQ testing was conducted. A summary table of 2008 IAQ results is included in Attachment 5. The sampling locations and results from June 2006 (pre-SVE) and August 2008 (post-SVE) are shown in Attachment 4.

9.5.2 Air Summary

In 2006, VOCs including PCE were detected at the site. An SVE system was installed at the site and results are provided in Attachments 7, 8, and 9.

10 REMEDIATION HISTORY (INTERIM REMEDIAL MEASURES AND OTHER CLEANUPS)

In June 2007, an IRM and SRIWP were developed to address PCE-impacted soil and the resulting soil vapor that posed a threat to the indoor air at this property. The selected remedy was an SVE system. The SVE system is designed to remediate VOCs in vadose soils within the basement structure, as well as control and mitigate soil vapor on and off site. The SVE system was finalized, began to operate in January of 2008, and continues to operate (BEI 2010). In 2009, a new concrete floor with a vapor barrier was also installed under the building (BEI 2009).

11 BIBLIOGRAPHY/INFORMATION SOURCES

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12 ATTACHMENTS

Figures

Figure 1 Site Vicinity Map: 192 Ralph Avenue

Tables

Table 1 Potential Areas of Concern and Transport Pathways Assessment

Supplemental Attachments

Attachment 1	Groundwater Elevation Survery (BEI 2010)
Attachment 2	2006 Soil and Groundwater Locations (BEI 2010)
Attachment 3	Vapor, Soil, and Groundwater Sample and SVE Wells Locations (BEI 2010)
Attachment 4	Indoor Air Quality (BEI 2010)
Attachment 5	2008 Indoor Air Quality Summary Table (BEI 2009)
Attachment 6	SVE System (BEI 2010)
Attachment 7	Vapor Extraction Wells Trend Graph (BEI 2010)
Attachment 8	Carbon Drum Influent Trend Graph (BEI 2010)
Attachment 9	Carbon Drum Effluent Trend Graph (BEI 2010)

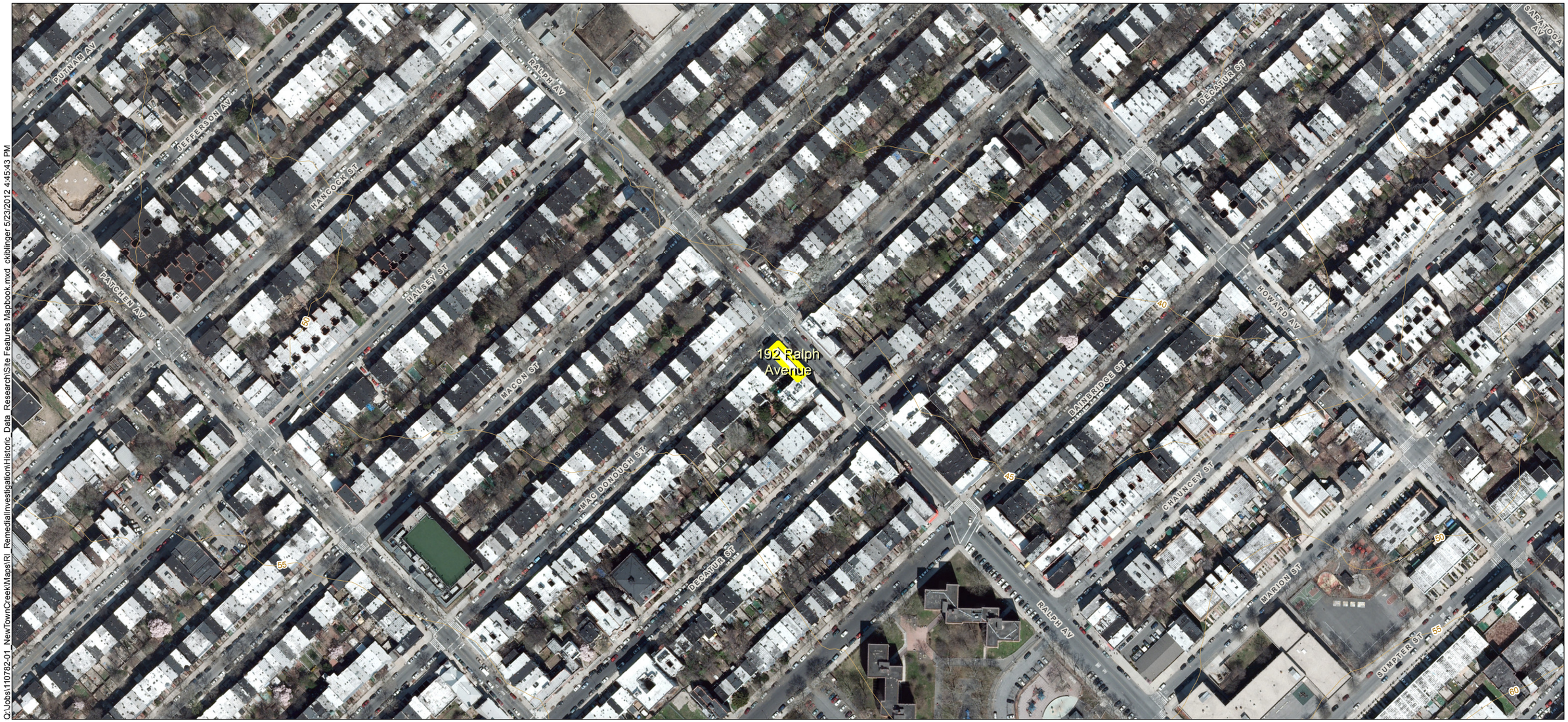
Table 1

Potential Areas of Concern and Transport Pathways Assessment – 192 Ralph Avenue

Potential Areas of Concern	Media Impacted					COPCs														Potential Complete Pathway						
						TPH			VOCs																		
Description of Areas of Concern	Surface Soil	Subsurface Soil	Groundwater	Catch Basin Solids	Creek Sediment	Gasoline-Range	Diesel – Range	Heavier – Range	Petroleum Related (e.g., BTEX)	VOCs	Chlorinated VOCs	SVOCs	PAHs	Phthalates	Phenolics	Metals	PCBs	Herbicides and Pesticides	Dioxins/Furans	Overland Transport	Groundwater	Direct Discharge – Overwater	Direct Discharge – Storm/Wastewater	Discharge to Sewer/CSO	Bank Erosion	Air Releases
Dry cleaning operations	√	√	√	?	?	?	?	?	?	√	√	?	?	?	?	?	?	?	?	--	?	--	?	?	--	?
Residual contamination following remedial activities (SVE system in-place and on-site/ off-site groundwater)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	--	?	--	?	?	--	?

Notes:
√ – COPCs are/were present in areas of concern having a current or historical pathway that is determined to be complete or potentially complete.
? – There is not enough information to determine if COPC is/was present in area of concern or if pathway is complete.
-- – Current or historical pathway has been investigated and shown to be not present or incomplete.

BTEX – benzene, toluene, ethylbenzene, and xylene
COPC – constituent of potential concern
CSO – combined sewer overflow
PAH – polycyclic aromatic hydrocarbon
PCB – polychlorinated byphenyl
SVE – soil vapor extraction
SVOC – semi-volatile organic compound
TPH – total petroleum hydrocarbon
VOC – volatile organic compound



Q:\Jobs\110782-01_NewTownCreek\Maps\RI_RemedialInvestigation\Historic_Data_Research\Site Features Mapbook.mxd ckiblinger 5/23/2012 4:45:43 PM

- USEPA Sample Locations (Surface and Subsurface)
- Shoreline (NYC Dept. of Information Technology, 2006)
- USGS Nat'l Elev. Dataset 5-foot Contours
- Selected Site Property Boundary
- Neighboring Site Property Boundary

Outfall Class

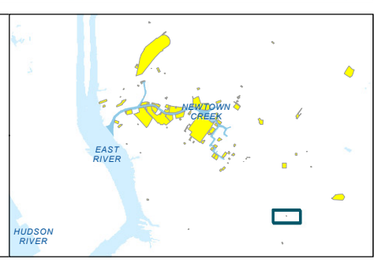
- Direct Discharge
- General
- Highway Drain
- Major Stormwater Outfall
- SPDES
- Storm Drain

NOTES:

1. Outfall Labeling: BB: Bowery Bay; NC(B/Q): Newtown Creek, Brooklyn/Queens; ST: Stormwater.
2. Outfall locations are preliminary, compiled, estimated data based on New York City Department of Environmental Protection (NYCDEP) maps and tabulated data and other resources. Many outfall locations were taken from the New York City Shoreline Survey Program: Newtown Creek Water Pollution Control Plant Drainage Area, NYCDEP, March 31, 2003. Other locations were taken from an excerpt from a similar report from 2008 (the complete report was not included in files available for review). Finally, some outfall locations were inherited from previous Anchor QEA and Newtown Creek Project work. Latitudinal and longitudinal data provided in the 2003 and 2008 NYCDEP reports were rounded to the nearest second. This resulted in potential outfall location discrepancies of up to approximately 200 feet. All outfall locations are currently under field verification.
3. Aerial Photos: New York State Division of Homeland Security and Emergency Services, 2010.
4. Site Boundaries are based on New York City parcels data.
5. Coarse topographic contours are derived from U.S. Geological Survey 10-meter data.

Feet

0 100 200 300 400



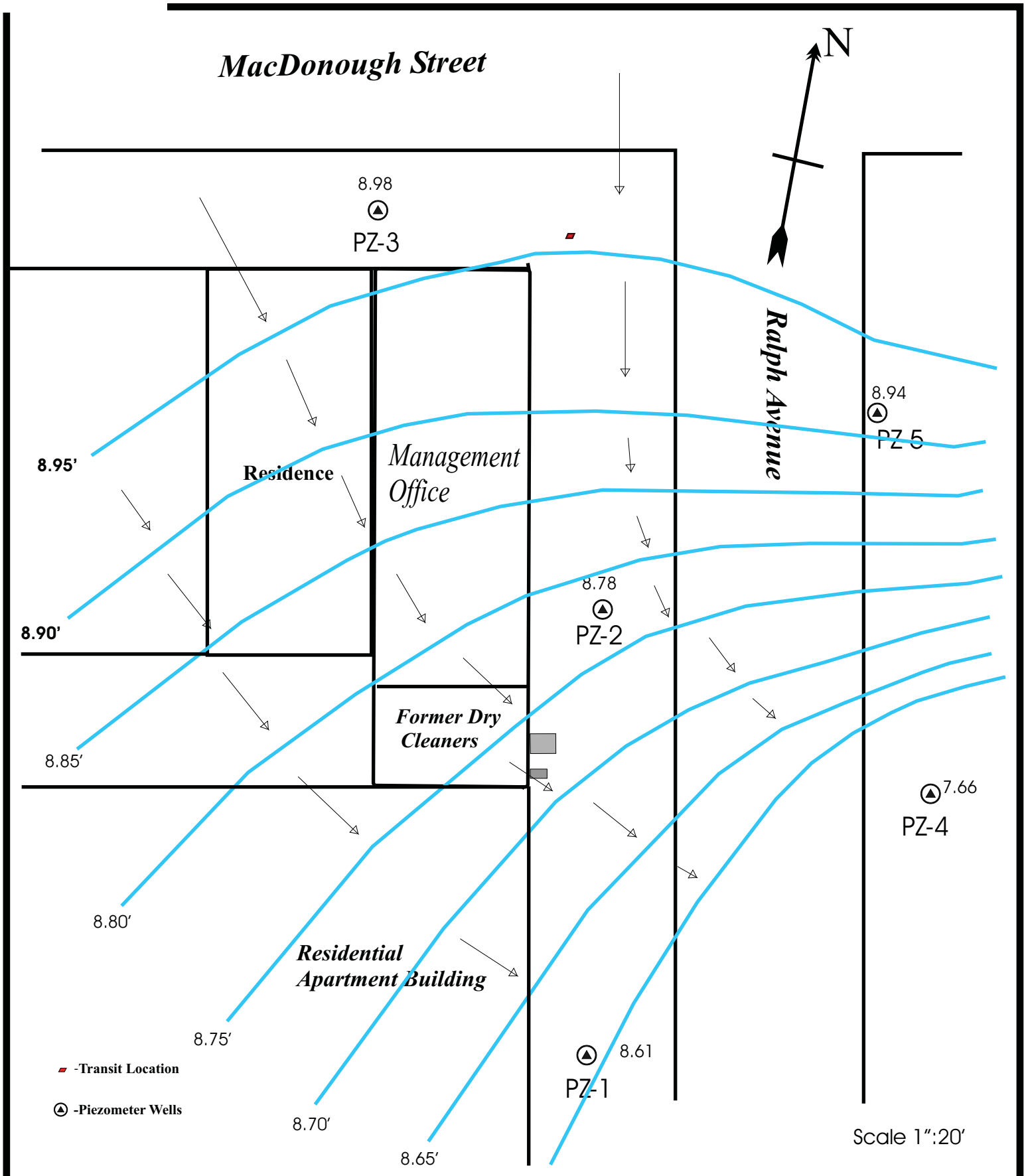
ANCHOR QEA

DRAFT

Figure 1
Site Vicinity Map
Draft Upland Site Summary: 192 Ralph Avenue
Newtown Creek RI/FS

SUPPLEMENTAL ATTACHMENTS

Attachment 1



Groundwater Elevation Survey

Well	MW Case-Elevation	DTW 1 /2/ 08	WT Elevation 1 /2/ 08
PZ-1	45.53	36.87	8.61
PZ-2	45.77	36.95	8.78
PZ-3	46.41	37.37	8.98
PZ-4	45.60	37.94	7.66
PZ-5	45.69	36,65	8.94

Elevation In Feet

Start Elevation: 45.92' Source: USGS Seamless Server South West Corner MacDonough St. & Ralph Ave.

188-192 Ralph Avenue
Brooklyn, New York
Site No. V-00669-2
Index No.: W2-0977-03-11
Figure-7

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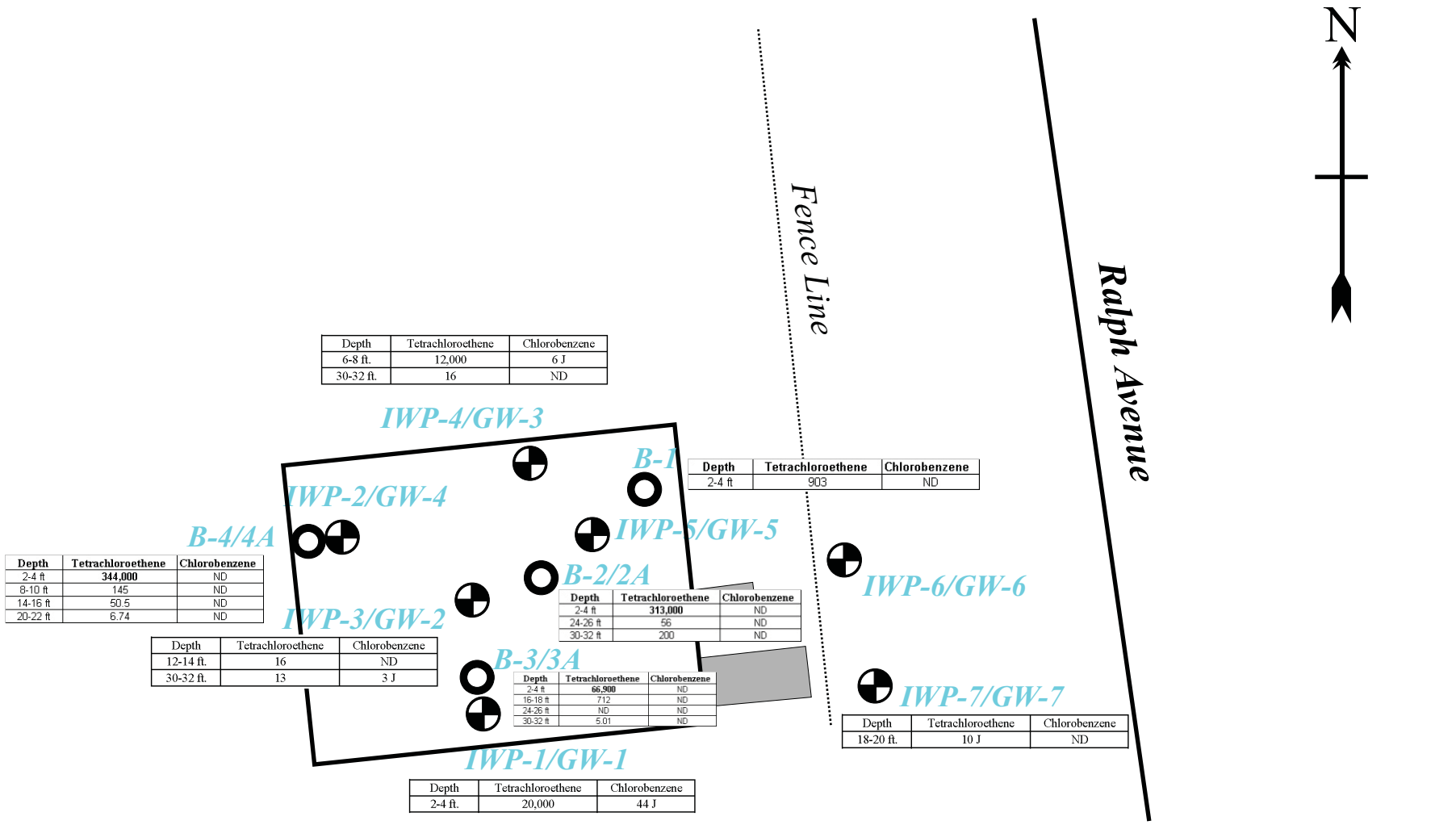
Attachment 2



- Soil Sampling Location May and July 2002
- Soil and Groundwater Sampling Location July and August 2006
- Detected Concentrations of VOCs in Soil Samples in micrograms per kilogram

Scale

0 ft. 20 ft.

Figure 8 - VOCs Detected in Soil Samples Collected in Prior Investigations and During IWP Activities July/August 2006

188-192 Ralph Avenue
Brooklyn, New York
Site No. V-00669-2
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Attachment 3

Interim Remedial Measure Work Plan
April 2007

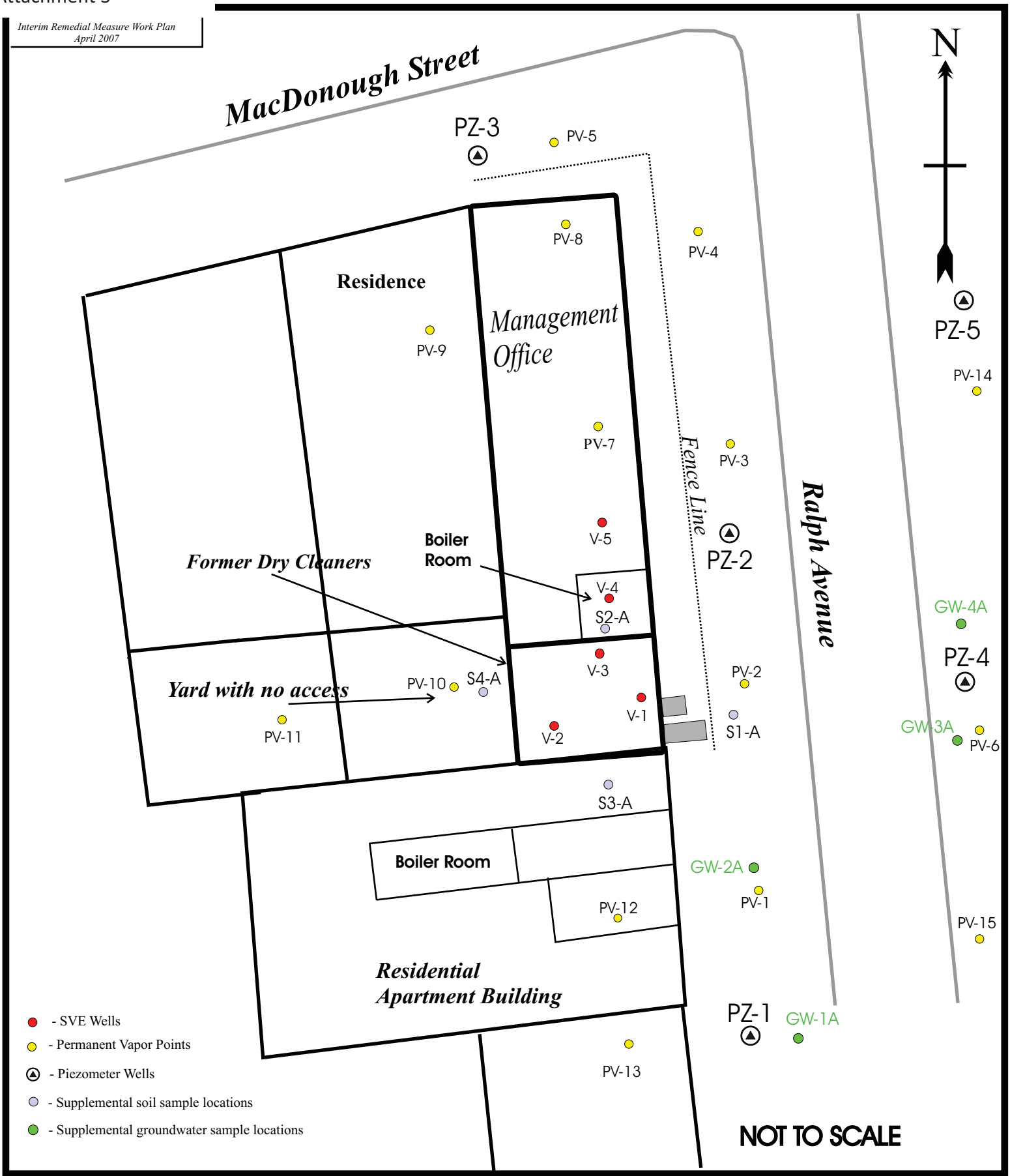

Figure -4
All Permanent Vapor Sample Locations / SVE Wells Soil and Groundwater Sample Locations

188-192 Ralph Avenue
Brooklyn, New York
Site No. V-00669-2
Index No.: W2-0977-03-11

Revised By: JGH 7/31/10

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Attachment 4

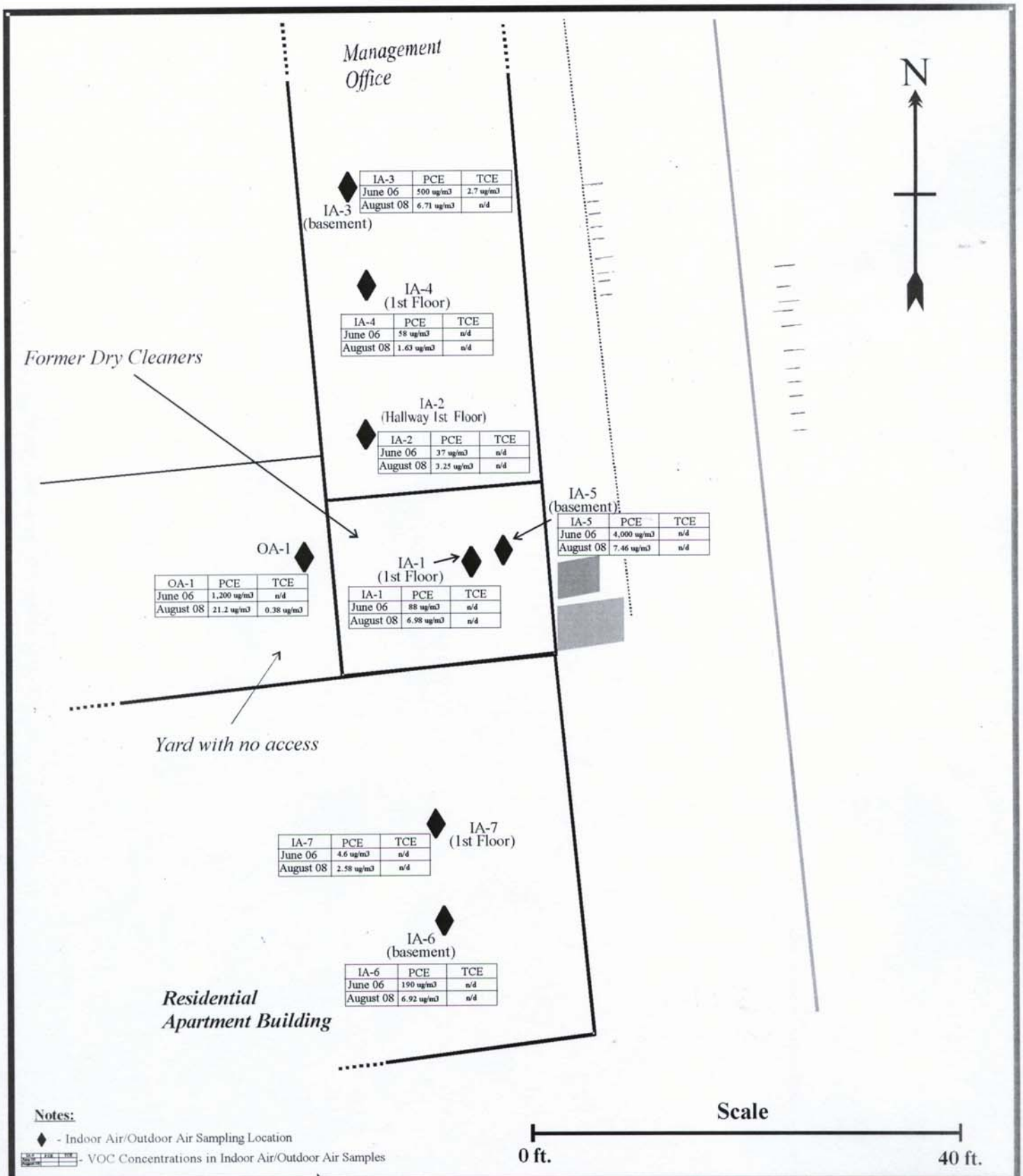

Figure-3
Indoor Air Quality
Comparison of June 2006
and August 2008
Air Samples

188-192 Ralph Avenue
Brooklyn, New York
Site No. V-00669-2
Index No.: W2-0977-03-11

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Attachment 5

VOLATILE ORGANICS EPA Compendium METHOD TO-15

	Ralph Avenue, Brooklyn SDG BER071 Berninger Sample ID: Laboratory ID: Sampling Date: Dilution		IA-1 0810111-001 8/26/2008 1		IA-2 0810111-002 8/26/2008 1		IA-3 0810111-003 8/26/2008 1		IA-4 0810111-004 8/26/2008 1		IA-5 0810111-005 8/26/2008 1		IA-6 0810111-006 8/26/2008 1		IA-7 0810111-007 8/26/2008 1		OA-1 0810111-008 8/25/2008 1 and 20	
Cas #	Analyte	Units:																
75-71-8	Dichlorodifluoromethane	ug/m3	2.77	J	2.87	J	2.92	J	2.77	J	2.92	J	2.92	J	2.92	J	2.57	J
76-14-2	1,2-Dichlorotetrafluoroethane	ug/m3	1.40	U	1.40	U	1.40	U	1.40	U	1.40	U	1.40	U	1.40	U	1.40	U
74-87-3	Chloromethane	ug/m3	1.18		1.36		1.24		1.22		0.41	U	0.41	U	2.31		2.15	J
106-99-0	1,3-Butadiene	ug/m3	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
74-83-9	Bromomethane	ug/m3	0.78	UJ	0.78	UJ	0.78	UJ	0.78	UJ	0.78	UJ	0.78	UJ	0.78	UJ	0.78	U
75-01-4	Vinyl Chloride	ug/m3	0.51	UJ	0.51	UJ	0.51	UJ	0.51	UJ	0.51	UJ	0.51	UJ	0.51	UJ	0.51	U
75-00-3	Chloroethane	ug/m3	0.53	UJ	0.53	UJ	0.53	UJ	0.53	UJ	0.53	UJ	0.53	UJ	0.53	UJ	0.61	
75-09-2	Methylene Chloride	ug/m3	3.34	U	5.52	U	4.83	U	6.11	U	4.34	U	3.40	U	8.55	U	6.60	U
107-05-1	Allyl Chloride	ug/m3	1.57	U	1.57	U	1.57	U	1.57	U	1.57	U	1.57	U	1.57	U	1.57	U
593-60-2	Vinyl Bromide	ug/m3	2.19	U	2.19	U	2.19	U	2.19	U	2.19	U	2.19	U	2.19	U	2.19	U
75-15-0	Carbon Disulfide	ug/m3	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.75	U
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
75-35-4	1,1-Dichloroethene	ug/m3	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
75-34-3	1,1-Dichloroethane	ug/m3	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U
75-69-4	Trichlorofluoromethane	ug/m3	1.74	J	1.91	J	1.63	J	1.74	J	1.85	J	1.57	J	1.69	J	14.6	
110-54-3	n-Hexane	ug/m3	4.05		4.05		5.60		3.56		4.23		1.94		2.43		395	
156-60-5	trans-1,2-Dichloroethene	ug/m3	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
156-59-2	cis-1,2-Dichloroethene	ug/m3	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
67-66-3	Chloroform	ug/m3	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	1.76		0.98	U
107-06-2	1,2-Dichloroethane	ug/m3	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
71-55-6	1,1,1-Trichloroethane	ug/m3	1.09	U	10.90	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
110-82-7	Cyclohexane	ug/m3	0.69	U	0.69	U	1.38		0.69	U	0.69	U	0.69	U	0.69	U	48.5	
56-23-5	Carbon Tetrachloride	ug/m3	1.26	U	1.26	U	1.26	U	1.26	U	1.26	U	1.26	U	1.26	U	1.26	U
75-27-4	Bromodichloromethane	ug/m3	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
78-87-5	1,2-Dichloropropane	ug/m3	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	U
540-84-1	2,2,4-Trimethylpentane	ug/m3	1.07		1.49		1.21		1.03		1.12		0.93	U	1.03		239	
10061-01-5	cis-1,3-Dichloropropene	ug/m3	2.27	U	2.27	U	2.27	U	2.27	U	2.27	U	2.27	U	2.27	U	2.27	U
79-01-6	Trichloroethene	ug/m3	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.38	
71-43-2	Benzene	ug/m3	1.02	J	1.50	J	2.91	J	0.99	J	1.12	J	1.28	J	1.28	J	29.8	
124-48-1	Dibromochloromethane	ug/m3	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U
10061-02-6	trans-1,3-Dichloropropene	ug/m3	2.27	UJ	2.27	UJ	2.27	UJ	2.27	UJ	2.27	UJ	2.27	UJ	2.27	UJ	2.27	U
79-00-5	1,1,2-Trichloroethane	ug/m3	1.09	UJ	1.09	UJ	1.09	UJ	1.09	UJ	1.09	UJ	1.09	UJ	1.09	UJ	1.09	U
75-25-2	Bromoform	ug/m3	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
142-82-5	n-Heptane	ug/m3	2.05	U	1.15	J	1.89	J	2.05	U	2.05	U	1.80	J	1.27	J	93.4	J
591-78-6	Methyl Butyl Ketone	ug/m3	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	UJ
106-93-4	1,2-Dibromoethane	ug/m3	1.54	UJ	1.54	UJ	1.54	UJ	1.54	UJ	1.54	UJ	1.54	UJ	1.54	UJ	1.54	UJ
127-18-4	Tetrachloroethene	ug/m3	6.98		3.25		6.71		1.63		7.46		6.92		2.58		21.2	J
79-34-5	1,1,2,2-Tetrachloroethane	ug/m3	1.37	UJ	1.37	UJ	1.37	UJ	1.37	UJ	1.37	UJ	1.37	UJ	1.37	UJ	1.37	UJ
108-88-3	Toluene	ug/m3	7.61	J	8.97	J	6.59	J	7.20	J	7.42	J	8.97	J	10.6	J	1390	
108-90-7	Chlorobenzene	ug/m3	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ	0.92	UJ
100-41-4	Ethylbenzene	ug/m3	2.26	J	2.95	J	2.30	J	1.26	J	1.52	J	2.65	J	1.17	J	112	J
100-42-5	Styrene	ug/m3	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	112	J
1330-20-7	Xylene (m,p)	ug/m3	7.95	J	9.43	J	9.12	J	4.34	J	5.08	J	6.17	J	3.47	J	342	J
95-47-6	Xylene (o)	ug/m3	2.17		2.69		3.61		1.39		1.61		2.30		1.22		139	J
95-49-8	2-Chlorotoluene	ug/m3	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	UJ
622-96-8	4-Ethyltoluene	ug/m3	0.98	U	0.98	U	1.72		0.98	U	0.98	U	1.62		0.98	U	27.6	J
108-67-8	1,3,5-Trimethylbenzene	ug/m3	0.98	U	0.98	U	1.52		0.98	U	0.98	U	2.41		0.98	U	36.1	J
95-63-6	1,2,4-Trimethylbenzene	ug/m3	1.62		1.72		6.93		1.47		1.43		5.65		2.36		108	J
541-73-1	1,3-Dichlorobenzene	ug/m3	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	UJ
106-46-7	1,4-Dichlorobenzene	ug/m3	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.98		1.38		1.20	UJ
95-50-1	1,2-Dichlorobenzene	ug/m3	1.20	UJ	1.20	UJ	1.20	UJ	1.20	UJ	1.20	UJ	1.20	UJ	1.20	UJ	1.20	UJ
87-68-3	Hexachlorobutadiene	ug/m3	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	UJ
120-82-1	1,2,4-Trichlorobenzene	ug/m3	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	UJ

VOLATILE ORGANICS EPA Compendium METHOD TO-15

	Ralph Avenue, Brooklyn SDG BER071 Berninger Sample ID: Laboratory ID: Sampling Date:		PV-2 0810111-009 8/25/2008 1 and 4		PV-12 0810111-010 8/25/2008 1 and 2		PV-14 0810111-011 8/25/2008 2 and 4		PV-15 0810111-012 8/25/2008 2 and 4	
Cas #	**Analyte**	**Units:**								
75-71-8	**Dichlorodifluoromethane**	ug/m3	**2.72**	**J**	**2.92**	**J**	**2.97**	**J**	**3.36**	**J**
76-14-2	**1,2-Dichlorotetrafluoroethane**	ug/m3	1.40	U	1.40	U	2.80	U	2.80	U
74-87-3	**Chloromethane**	ug/m3	1.12		0.41	U	0.83	U	0.83	U
106-99-0	**1,3-Butadiene**	ug/m3	0.44	U	0.44	U	0.88	U	0.88	U
74-83-9	**Bromomethane**	ug/m3	**0.78**	**UJ**	**0.78**	**UJ**	**1.55**	**UJ**	**1.55**	**UJ**
75-01-4	**Vinyl Chloride**	ug/m3	**0.51**	**UJ**	**0.51**	**UJ**	**1.02**	**UJ**	**1.02**	**UJ**
75-00-3	**Chloroethane**	ug/m3	**0.71**	**J**	**0.53**	**UJ**	**1.06**	**UJ**	**1.06**	**UJ**
75-09-2	**Methylene Chloride**	ug/m3	**3.27**	**U**	**3.34**	**U**	**4.52**	**U**	**3.20**	**U**
107-05-1	**Allyl Chloride**	ug/m3	1.57	U	1.57	U	3.13	U	3.13	U
593-60-2	**Vinyl Bromide**	ug/m3	2.19	U	2.19	U	4.37	U	4.37	U
75-15-0	**Carbon Disulfide**	ug/m3	**1.25**	**U**	0.62	U	**3.92**	**U**	**4.05**	**U**
76-13-1	**1,1,2-Trichloro-1,2,2-Trifluoroethane**	ug/m3	1.53	U	1.53	U	3.07	U	3.07	U
75-35-4	**1,1-Dichloroethene**	ug/m3	0.79	U	0.79	U	1.59	U	1.59	U
75-34-3	**1,1-Dichloroethane**	ug/m3	0.81	U	0.81	U	1.62	U	1.62	U
75-69-4	**Trichlorofluoromethane**	ug/m3	**2.25**	**J**	**4.21**	**J**	**2.25**	**UJ**	**2.47**	**J**
110-54-3	**n-Hexane**	ug/m3	32.9		42.3		20.7		22.3	
156-60-5	**trans-1,2-Dichloroethene**	ug/m3	0.79	U	0.79	U	1.59	U	1.59	U
156-59-2	**cis-1,2-Dichloroethene**	ug/m3	1.39		1.11		1.59	U	1.59	U
67-66-3	**Chloroform**	ug/m3	0.98	U	2.10		3.81		6.93	
107-06-2	**1,2-Dichloroethane**	ug/m3	0.79	U	0.79	U	1.59	U	1.59	U
71-55-6	**1,1,1-Trichloroethane**	ug/m3	1.09	U	1.09	U	2.18	U	2.18	U
110-82-7	**Cyclohexane**	ug/m3	3.58		2.07		2.27		2.55	
56-23-5	**Carbon Tetrachloride**	ug/m3	1.26	U	1.26	U	2.52	U	2.52	U
75-27-4	**Bromodichloromethane**	ug/m3	1.34	U	1.34	U	2.68	U	2.68	U
78-87-5	**1,2-Dichloropropane**	ug/m3	**0.92**	**UJ**	**0.92**	**UJ**	**1.85**	**UJ**	**1.85**	**UJ**
540-84-1	**2,2,4-Trimethylpentane**	ug/m3	20.5		9.06		9.62		10.6	
10061-01-5	**cis-1,3-Dichloropropene**	ug/m3	2.27	U	2.27	U	4.54	U	4.54	U
79-01-6	**Trichloroethene**	ug/m3	4.25		4.84		3.01		1.18	
71-43-2	**Benzene**	ug/m3	**5.46**	**J**	**2.56**	**J**	**2.62**	**J**	**2.49**	**J**
124-48-1	**Dibromochloromethane**	ug/m3	1.70	U	1.70	U	3.41	U	3.41	U
10061-02-6	**trans-1,3-Dichloropropene**	ug/m3	**2.27**	**UJ**	**2.27**	**UJ**	**4.54**	**UJ**	**4.54**	**UJ**
79-00-5	**1,1,2-Trichloroethane**	ug/m3	**1.09**	**UJ**	**1.09**	**UJ**	**2.18**	**UJ**	**2.18**	**UJ**
75-25-2	**Bromoform**	ug/m3	2.07	U	2.07	U	4.14	U	4.14	U
142-82-5	**n-Heptane**	ug/m3	13.9		5.33		6.23		7.46	
591-78-6	**Methyl Butyl Ketone**	ug/m3	2.05	U	2.05	U	4.10	U	4.10	U
106-93-4	**1,2-Dibromoethane**	ug/m3	**1.54**	**UJ**	**1.54**	**UJ**	**3.07**	**UJ**	**3.07**	**UJ**
127-18-4	**Tetrachloroethene**	ug/m3	**427**		**416**		**551**		**612**	U
79-34-5	**1,1,2,2-Tetrachloroethane**	ug/m3	**1.37**	**UJ**	**1.37**	**UJ**	**2.75**	**UJ**	**2.75**	**UJ**
108-88-3	**Toluene**	ug/m3	**271**		**195**		**266**	**J**	**256**	**J**
108-90-7	**Chlorobenzene**	ug/m3	**8.98**	**J**	**0.92**	**UJ**	**1.84**	**UJ**	**1.84**	**UJ**
100-41-4	**Ethylbenzene**	ug/m3	**67.8**	**J**	**28.4**	**J**	**45.6**	**J**	**43.0**	**J**
100-42-5	**Styrene**	ug/m3	49.8		47.7		77.9		68.1	
1330-20-7	**Xylene (m,p)**	ug/m3	**232**	**J**	**107**	**J**	**174**	**J**	**157**	**J**
95-47-6	**Xylene (o)**	ug/m3	81.2		44.3		65.6		62.5	
95-49-8	**2-Chlorotoluene**	ug/m3	1.04	U	1.04	U	2.07	U	2.07	U
622-96-8	**4-Ethyltoluene**	ug/m3	20.8		16.5		22.7		23.2	
108-67-8	**1,3,5-Trimethylbenzene**	ug/m3	24.6		23.1		26.4		26.8	
95-63-6	**1,2,4-Trimethylbenzene**	ug/m3	80.6		74.7		90.5		86.5	
541-73-1	**1,3-Dichlorobenzene**	ug/m3	1.20	U	1.20	U	2.40	U	2.40	U
106-46-7	**1,4-Dichlorobenzene**	ug/m3	1.20	U	1.20	U	2.40	U	2.40	U
95-50-1	**1,2-Dichlorobenzene**	ug/m3	**1.20**	**UJ**	**1.20**	**UJ**	**2.40**	**UJ**	**2.40**	**UJ**
87-68-3	**Hexachlorobutadiene**	ug/m3	2.13	U	2.13	U	4.27	U	4.27	U
120-82-1	**1,2,4-Trichlorobenzene**	ug/m3	1.48	U	1.48	U	2.97	U	2.97	U

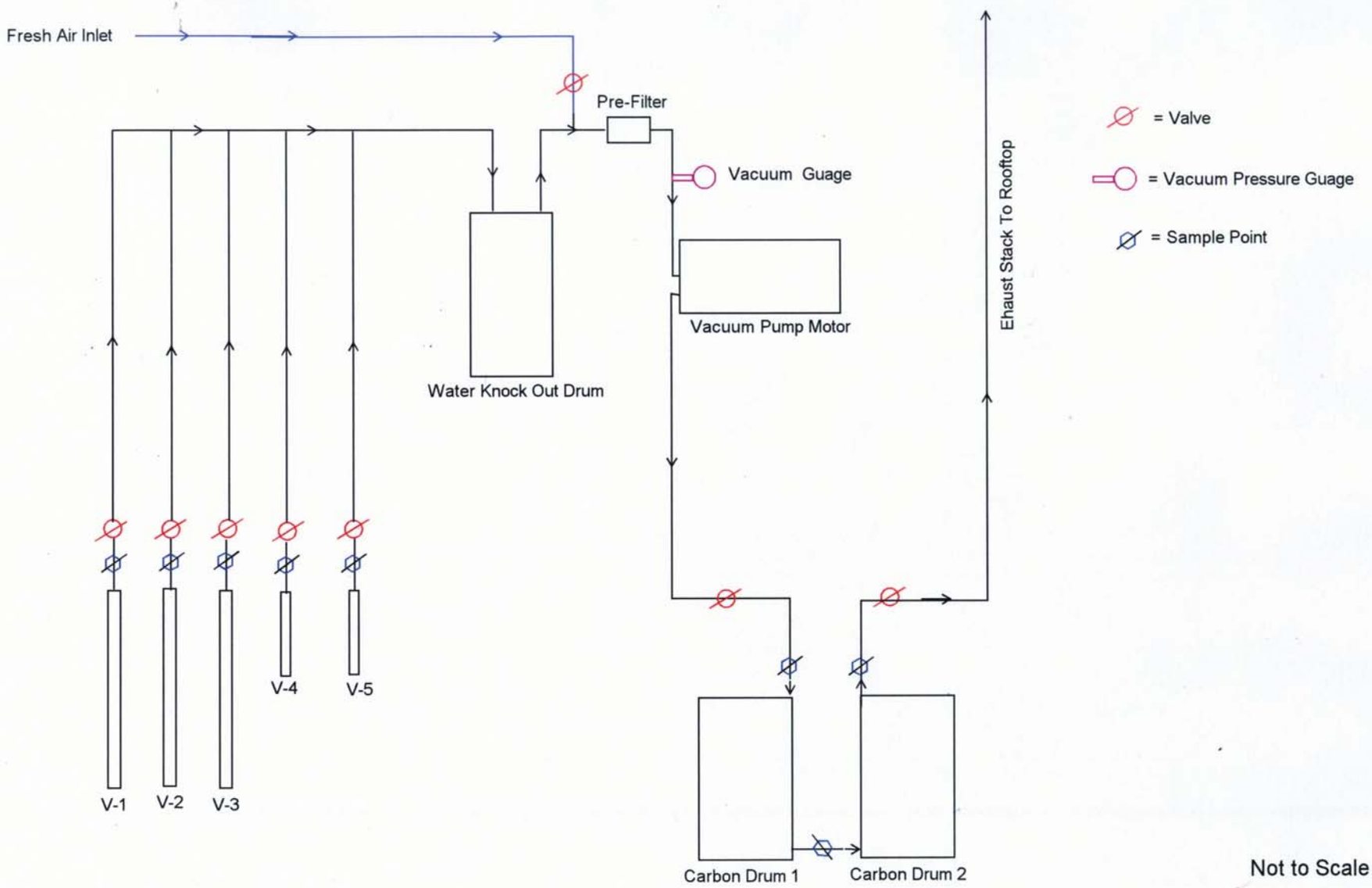
VOLATILE ORGANICS EPA Compendium METHOD TO-15

	Ralph Avenue, Brooklyn SDG BER071																					
	Berninger Sample ID:		IA-1		IA-2		IA-3		IA-4		IA-5		IA-6		IA-7		OA-1					
	Laboratory ID:		0810111-001		0810111-002		0810111-003		0810111-004		0810111-005		0810111-006		0810111-007		0810111-008					
	Sampling Date:		8/26/2008		8/26/2008		8/26/2008		8/26/2008		8/26/2008		8/26/2008		8/26/2008		8/25/2008					
	Dilution		1		1		1		1		1		1		1		1 and 20					
Cas #	Analyte	Units:																				
75-71-8	Dichlorodifluoromethane	ppbv	0.56	J	0.58	J	0.59	J	0.56	J	0.59	J	0.59	J	0.59	J	0.52	J				
76-14-2	1,2-Dichlorotetrafluoroethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
74-87-3	Chloromethane	ppbv	0.57		0.66		0.60		0.59		0.20	U	0.20	U	1.12		1.04	J				
106-99-0	1,3-Butadiene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
74-83-9	Bromomethane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	U				
75-01-4	Vinyl Chloride	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	U				
75-00-3	Chloroethane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.23					
75-09-2	Methylene Chloride	ppbv	0.96	U	1.59	U	1.39	U	1.76	U	1.25	U	0.98	U	2.46	U	1.90	U				
107-05-1	Allyl Chloride	ppbv	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U				
593-60-2	Vinyl Bromide	ppbv	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U				
75-15-0	Carbon Disulfide	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.24	U				
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
75-35-4	1,1-Dichloroethene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
75-34-3	1,1-Dichloroethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
75-69-4	Trichlorofluoromethane	ppbv	0.31	J	0.34	J	0.29	J	0.31	J	0.33	J	0.28	J	0.30	J	2.59					
110-54-3	n-Hexane	ppbv	1.15		1.15		1.59		1.01		1.20		0.55		0.69		112					
156-60-5	trans-1,2-Dichloroethene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
156-59-2	cis-1,2-Dichloroethene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
67-66-3	Chloroform	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.36		0.20	U				
107-06-2	1,2-Dichloroethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
71-55-6	1,1,1-Trichloroethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
110-82-7	Cyclohexane	ppbv	0.20	U	0.20	U	0.40		0.20	U	0.20	U	0.20	U	0.20	U	14.1					
56-23-5	Carbon Tetrachloride	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
75-27-4	Bromodichloromethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
78-87-5	1,2-Dichloropropane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	U				
540-84-1	2,2,4-Trimethylpentane	ppbv	0.23		0.32		0.26		0.22		0.24		0.20	U	0.22		51.2					
10061-01-5	cis-1,3-Dichloropropene	ppbv	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U				
79-01-6	Trichloroethene	ppbv	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.07					
71-43-2	Benzene	ppbv	0.32	J	0.47	J	0.91	J	0.31	J	0.35	J	0.40	J	0.40	J	9.34					
124-48-1	Dibromochloromethane	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
10061-02-6	trans-1,3-Dichloropropene	ppbv	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	U				
79-00-5	1,1,2-Trichloroethane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	U				
75-25-2	Bromoform	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
142-82-5	n-Heptane	ppbv	0.50	U	0.28	J	0.46	J	0.50	U	0.50	U	0.44	J	0.31	J	22.8	J				
591-78-6	Methyl Butyl Ketone	ppbv	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	UJ				
106-93-4	1,2-Dibromoethane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ				
127-18-4	Tetrachloroethene	ppbv	1.03		0.48		0.99		0.24		1.10		1.02		0.38	J	3.13	J				
79-34-5	1,1,2,2-Tetrachloroethane	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ				
108-88-3	Toluene	ppbv	2.02	J	2.38	J	1.75	J	1.91	J	1.97	J	2.38	J	2.82	J	368					
108-90-7	Chlorobenzene	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ				
100-41-4	Ethylbenzene	ppbv	0.52	J	0.68	J	0.53	J	0.29	J	0.35	J	0.61	J	0.27	J	25.9	J				
100-42-5	Styrene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	26.3	J				
1330-20-7	Xylene (m,p)	ppbv	1.83	J	2.17	J	2.10	J	1.00	J	1.17	J	1.42	J	0.80	J	78.8	J				
95-47-6	Xylene (o)	ppbv	0.50		0.62		0.83		0.32		0.37		0.53		0.28		31.9	J				
95-49-8	2-Chlorotoluene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	UJ				
622-96-8	4-Ethyltoluene	ppbv	0.20	U	0.20	U	0.35		0.20	U	0.20	U	0.33		0.20	U	5.61	J				
108-67-8	1,3,5-Trimethylbenzene	ppbv	0.20	U	0.20	U	0.31		0.20	U	0.20	U	0.49		0.20	U	7.35	J				
95-63-6	1,2,4-Trimethylbenzene	ppbv	0.33		0.35		1.41		0.30		0.29		1.15		0.48		22.0	J				
541-73-1	1,3-Dichlorobenzene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	UJ				
106-46-7	1,4-Dichlorobenzene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.33		0.23		0.20	UJ				
95-50-1	1,2-Dichlorobenzene	ppbv	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ	0.20	UJ				
87-68-3	Hexachlorobutadiene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	UJ				
120-82-1	1,2,4-Trichlorobenzene	ppbv	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	UJ				

VOLATILE ORGANICS EPA Compendium METHOD TO-15

	Ralph Avenue, Brooklyn SDG BER071 Berninger Sample ID: Laboratory ID: Sampling Date:		PV-2 0810111-009 8/25/2008 1 and 4		PV-12 0810111-010 8/25/2008 1 and 2		PV-14 0810111-011 8/25/2008 2 and 4		PV-15 0810111-012 8/25/2008 2 and 4	
Cas #	Analyte	Units:								
75-71-8	Dichlorodifluoromethane	ppbv	0.55		0.59		0.60		0.68	
76-14-2	1,2-Dichlorotetrafluoroethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
74-87-3	Chloromethane	ppbv	0.54		0.20	U	0.40	U	0.40	U
106-99-0	1,3-Butadiene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
74-83-9	Bromomethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-01-4	Vinyl Chloride	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-00-3	Chloroethane	ppbv	0.27		0.20	U	0.40	U	0.40	U
75-09-2	Methylene Chloride	ppbv	**0.94**	**U**	**0.96**	**U**	**1.30**	**U**	**0.92**	**U**
107-05-1	Allyl Chloride	ppbv	0.50	U	0.50	U	1.00	U	1.00	U
593-60-2	Vinyl Bromide	ppbv	0.50	U	0.50	U	1.00	U	1.00	U
75-15-0	Carbon Disulfide	ppbv	**0.40**	**U**	0.20	U	**1.26**	**U**	**1.30**	**U**
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-35-4	1,1-Dichloroethene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-34-3	1,1-Dichloroethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-69-4	Trichlorofluoromethane	ppbv	0.40		0.75		0.40	U	0.44	
110-54-3	n-Hexane	ppbv	9.33		12.0		5.88		6.34	
156-60-5	trans-1,2-Dichloroethene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
156-59-2	cis-1,2-Dichloroethene	ppbv	0.35		0.28		0.40	U	0.40	U
67-66-3	Chloroform	ppbv	0.20	U	0.43		0.78		1.42	
107-06-2	1,2-Dichloroethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
71-55-6	1,1,1-Trichloroethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
110-82-7	Cyclohexane	ppbv	1.04		0.60		0.66		0.74	
56-23-5	Carbon Tetrachloride	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
75-27-4	Bromodichloromethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
78-87-5	1,2-Dichloropropane	ppbv	**0.20**	**UJ**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
540-84-1	2,2,4-Trimethylpentane	ppbv	4.39		1.94		2.06		1.92	
10061-01-5	cis-1,3-Dichloropropene	ppbv	0.50	U	0.50	U	1.00	U	1.00	U
79-01-6	Trichloroethene	ppbv	0.79		0.90		0.56		0.22	
71-43-2	Benzene	ppbv	**1.71**	**J**	**0.80**	**J**	**0.82**	**J**	**0.78**	**J**
124-48-1	Dibromochloromethane	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
10061-02-6	trans-1,3-Dichloropropene	ppbv	**0.50**	**UJ**	**0.50**	**UJ**	**1.00**	**UJ**	**1.00**	**UJ**
79-00-5	1,1,2-Trichloroethane	ppbv	**0.20**	**UJ**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
75-25-2	Bromoform	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
142-82-5	n-Heptane	ppbv	3.38		1.30		1.52		1.82	
591-78-6	Methyl Butyl Ketone	ppbv	0.50	U	0.50	U	1.00	U	1.00	U
106-93-4	1,2-Dibromoethane	ppbv	**0.20**	**UJ**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
127-18-4	Tetrachloroethene	ppbv	**63.0**		**61.4**		**81.2**		**90.2**	
79-34-5	1,1,2,2-Tetrachloroethane	ppbv	**0.20**	**UJ**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
108-88-3	Toluene	ppbv	**72.0**		**51.7**		**70.6**	**J**	**67.9**	**J**
108-90-7	Chlorobenzene	ppbv	**1.95**	**J**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
100-41-4	Ethylbenzene	ppbv	**15.6**	**J**	**6.54**	**J**	**10.5**	**J**	**9.90**	**J**
100-42-5	Styrene	ppbv	11.7		11.2		18.3		16.0	
1330-20-7	Xylene (m,p)	ppbv	**53.4**	**J**	**24.7**	**J**	**40.1**	**J**	**36.2**	**J**
95-47-6	Xylene (o)	ppbv	18.7		10.2		15.1		14.4	
95-49-8	2-Chlorotoluene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
622-96-8	4-Ethyltoluene	ppbv	4.23		3.36		4.62		4.72	
108-67-8	1,3,5-Trimethylbenzene	ppbv	5.01		4.69		5.36		5.46	
95-63-6	1,2,4-Trimethylbenzene	ppbv	16.4		15.2		18.4		17.6	
541-73-1	1,3-Dichlorobenzene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
106-46-7	1,4-Dichlorobenzene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
95-50-1	1,2-Dichlorobenzene	ppbv	**0.20**	**UJ**	**0.20**	**UJ**	**0.40**	**UJ**	**0.40**	**UJ**
87-68-3	Hexachlorobutadiene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U
120-82-1	1,2,4-Trichlorobenzene	ppbv	0.20	U	0.20	U	0.40	U	0.40	U

Attachment 6



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DRAWN BY: JGH

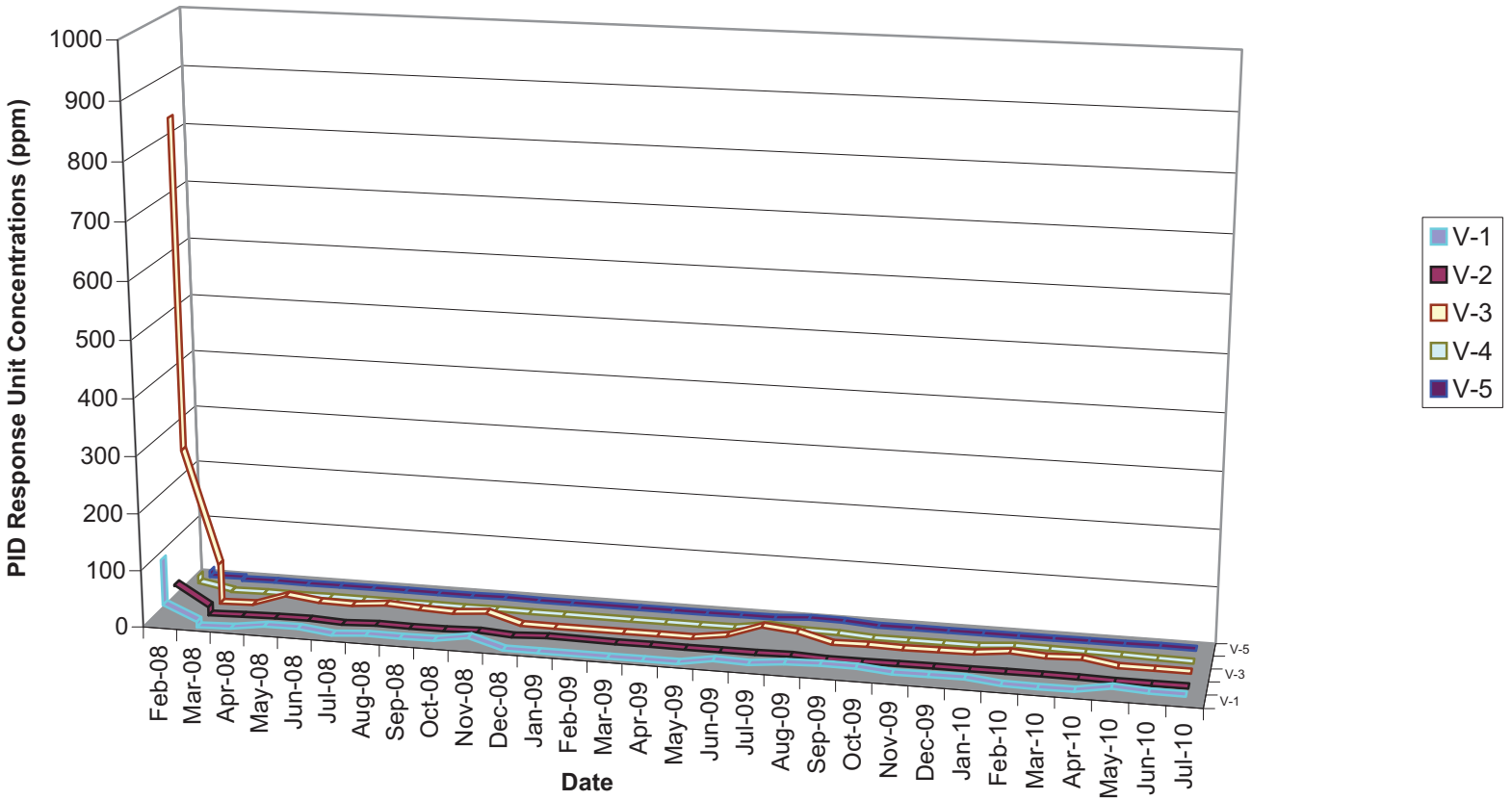
DATE: 10/09

Figure - 5
VES Flow Diagram

188 Ralph Avenue
Brooklyn, NY
Site No. V-00669-2
Index No.: W2-0977-03-11

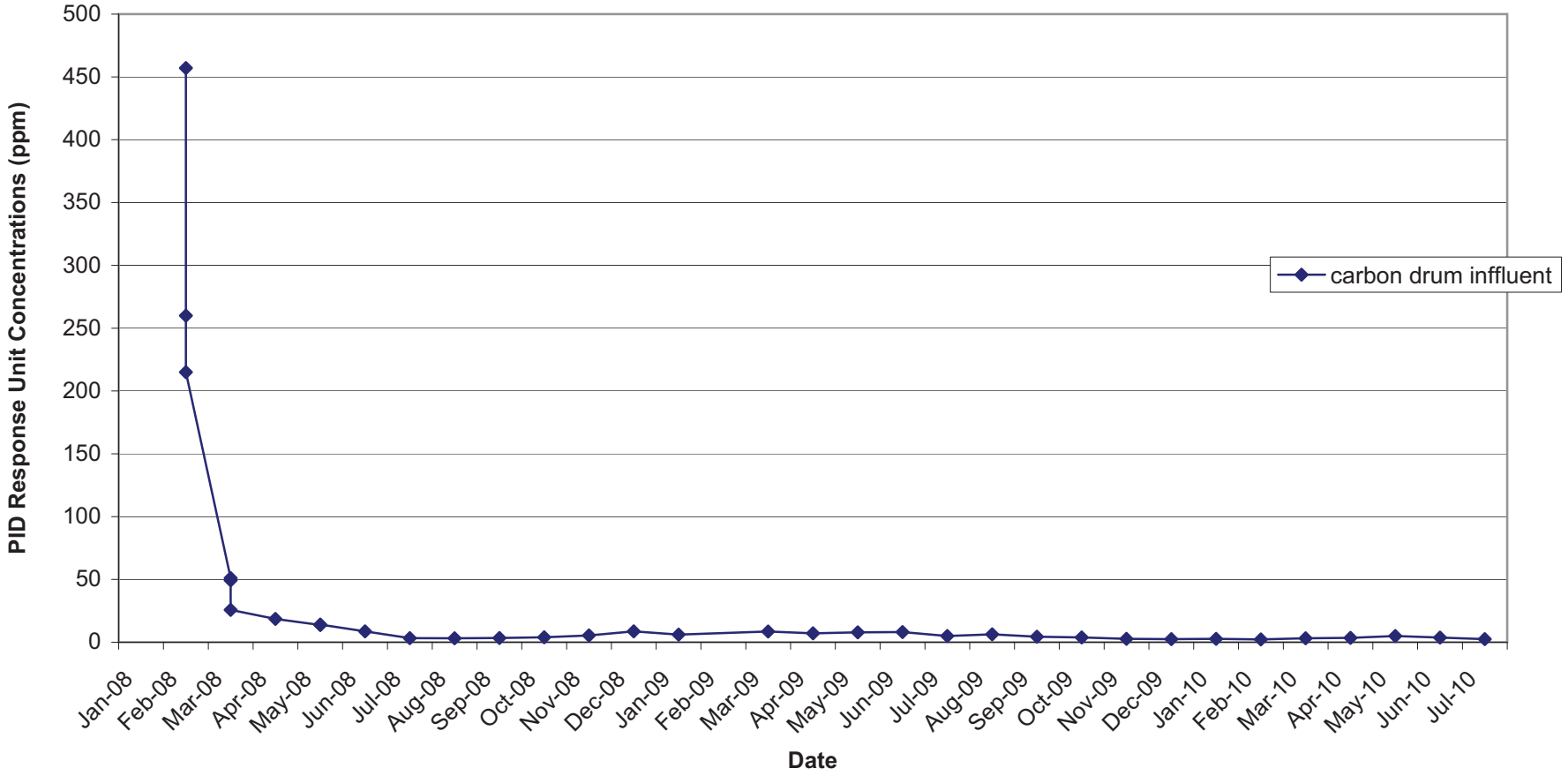
Attachment 7

188-192 Ralph Ave.
Brooklyn, NY
Site# V-00669-2
Index# W2-0977-03-11
Vapor Extraction Wells PID
Figure-6



Attachment 8

188-192 Ralph Ave.
Brooklyn, NY
Site# V-00669-2
Index# W2-0977-03-11
Carbon Drum Influent
Figure-6a



Attachment 9

188-192 Ralph Ave.
Brooklyn, NY
Site# V-00669-2
Index# W2-0977-03-11
Carbon Drum Effluent
Figure-6b